

## The Blister Pine in West Virginia

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The Blister Pine occurs at two localities, perhaps elsewhere, in mountain swamps of West Virginia: in Canaan Valley, Tucker county and at Cheatbridge, in Randolph county. Mills-paugh<sup>1</sup> originally referred the West Virginia plant to *Abies balsamea* Miller. However, its characters did not seem to match exactly those of that species and he later<sup>2</sup> decided that the West Virginia plants belonged rather to *A. Fraseri* (Pursh) Lindl. Recent studies made by the writer have emphasized the uncertainty of identification, and the geographical position, midway between the range of the northern species (*A. balsamea*) and that of the southern one (*A. Fraseri*), suggests that ours may represent a distinct species, possibly derived by hybridiza-

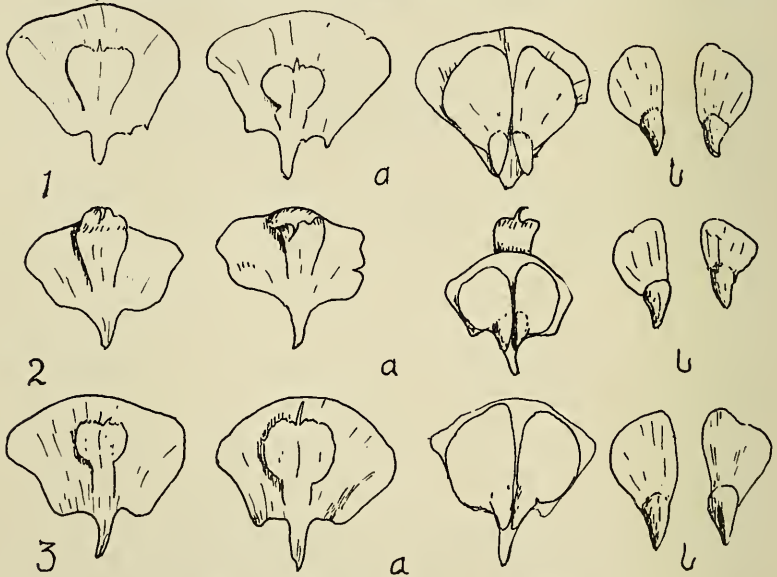


Fig. 1 *Abies balsamea* Miller, from Vermont a, scales and bracts; b, seeds

Fig. 2 *A. Fraseri* (Pursh) Lindl., from North Carolina a, scales and bracts; b, seeds

Fig. 3 *A. ?*, from West Virginia a, scales and bracts; b, seeds

<sup>1</sup> Mills-paugh, C. F., Bull. W. Va. Agr. Exp. Sta. 2:477. 1892.

<sup>2</sup> Mills-paugh, C. F., W. Va. Geol. Surv. V(A):201. 1913.

tion from the above mentioned species. Preliminary investigations have brought out some interesting features, which the author desires to study more critically before making a final decision. Since another season will be required for the completion of this study, a preliminary note was deemed advisable. It is quite possible, of course, that both *A. balsamea* and *A. Fraseri* may occur in the state, together with the new form.

The principal point of distinction between *A. Fraseri* and *balsamea* is a difference in the relative length of the scales and subtending bracts of the fruiting cone. In *A. Fraseri* the emarginate bracts are longer than the scales, with the upper part conspicuously projecting and reflexed, whereas in *A. balsamea* they are shorter and not projecting. The West Virginia plant has the bracts shorter than the scales and is clearly more closely related to the northern species. However, it appears to differ quite markedly from *A. balsamea* in its more acute leaves, larger seeds, and broader scales.

There is an added point of difficulty in the fact that the West Virginia material itself appears to represent two races, as there are a number of striking differences between those collected at Cheatbridge, and those collected in Canaan Valley.

It is hoped that comparative studies continued during the 1934 season will serve to clear up the confusion that has existed in regard to these West Virginia plants.

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